AMENDMENT TO THE CLAIMS

A listing of the claims presented in this patent application appears below. This listing replaces all prior versions and listing of claims in this patent application.

Claims 1-75 (canceled).

Claim 76 (new): A method of identifying a compound which modulates binding of a ligand to an EGF receptor comprising:

(A) designing or screening for a compound which binds to the structure formed by amino acids 1-475 or formed by amino acids 313-621 of a receptor having the atomic coordinates as shown in Figure 6 for amino acids 1-621 of the EGF receptor, where binding of the compound to the structure is favored energetically, and

(B) testing the compound designed or screened for in (A) for its ability to modulate binding of the ligand to the EGF receptor *in vivo* or *in vitro*, thereby identifying a compound that modulates binding to the EGF receptor.

Claim 77 (new): The method according to claim 76, wherein the testing in step (B) is performed by a high-throughput assay.

Claim 78 (new): The method of claim 76, wherein the testing in step (B) comprises testing the compound for the ability to modulate EGF receptor mediated cell proliferation.

Claim 79 (new): The method of claim 76, wherein step (A) involves designing or screening for a compound which binds to a β-sheet of the L1 domain within the structure formed by amino acids 1-475 of a receptor having the atomic co-ordinates as shown in Figure 6 for amino acids 1-621 of the EGF receptor.

Claim 80 (new): The method of claim 76, wherein step (A) involves designing or screening for a compound which binds to a β-sheet of the L2 domain within the structure formed by amino acids 1-475 or formed by amino acids 313-621 of a receptor having the atomic co-ordinates shown in Figure 6 for amino acids 1-621 of the EGF receptor.

Claim 81 (new): The method of claim 76, which further includes the step of modifying the compound identified such that binding to a face of the structure containing the second β-sheet of the L1 and/or L2 domains is enhanced in the modified compound compared to the unmodified compound, wherein the face is characterized by a plurality of solvent-exposed hydrophobic residues.

Claim 82 (new): The method of claim 81, in which the hydrophobic residues include:

(i) Tyr64, Leu66, Tyr89, Tyr93; and/or

(ii) Leu348, Phe380 and Phe412.

Claim 83 (new): The method of claim 76 in which the compound is identified from test compounds in a database.

Claim 84 (new): The method of claim 76, wherein step (B) comprises testing the compound for its ability to increase signal transduction by binding to the EGF receptor.

Claim 85 (new): The method of claim 76, wherein step (B) comprises testing the compound for its ability to decrease signal transduction by binding to the EGF receptor.

Claim 86 (new): The method of claim 76, wherein step (B) comprises testing the compound for its ability to inhibit or prevent the binding of a ligand to the EGF receptor.

Claim 87 (new): A method of selecting a compound which binds to the EGF receptor comprising:

(A) designing or screening for a compound which binds to the structure formed by amino acids 1-475 or formed by amino acids 313-621 of a receptor having the atomic

coordinates as shown in Figure 6 for amino acids 1-621 of the EGF receptor, where binding of the compound to the structure is favored energetically, and

(B) selecting a compound designed or screened for in (A) which has an experimentally determined K_d or K_I of less than 10^{-6}M for the EGF receptor, thereby selecting a compound which binds to the EGF receptor.

Claim 88 (new): The method as claimed in claim 87, wherein K_d is less than 10^{-8}M.

Claim 89 (new): The method of claim 87, wherein K_I is less than 10^{-8}M.